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NONPARAMETRIC ANALYSIS OF COST-EFFECTIVENESS RATIOS OF PRAVASTATIN IN PRIMARY PREVENTION OF CARDIOVASCULAR DISEASE

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OBJECTIVE: To obtain the confidence interval (CI) of the results of a cost-effectiveness model for the treatment of hypercholesterolemia.
BACKGROUND: Incremental CE ratios play an important role in pharmacoeconomic analysis. However, CI estimates for the CE ratio are rare because the underlying distribution is unknown in most cases. Rather than using traditional one-way or multiway sensitivity analysis to explore estimate variability, a nonparametric bootstrap method is used to generate the CE ratio CI. This is more robust because it does not make parametric assumptions.
METHODS: 1,000 bootstrap samples were drawn simultaneously with replacement from both an empirical distribution and a Monte Carlo experiment. For patient risk factors we used the complete subsample of men aged 45–64 fitting NCEP primary prevention guidelines in the National Health and Nutrition Examination Survey III. For model parameters (e.g., costs, discount rate) values were randomly drawn from a specified multivariate distribution. With 1,000 repeated estimates, the 26th and 975th ranked CE ratios were used to define the 95% confidence interval. Programming was done in Visual Basic for Applications (VBA) language. The study perspective was that of a third party payer. Efficacy and compliance data were obtained from the WOSCOPS clinical trial. The incremental 5-year cardiovascular health care costs were derived from a health insurer database.
RESULTS: A 95% CI for the CE ratio resulting from the nonparametric bootstrap method showed that primary prevention of cardiovascular disease with pravastatin remained cost-effective.
CONCLUSION: Confidence interval estimation for the CE ratio is important and will allow individuals to identify if a new intervention is a good value for cost, while capturing the inherent imprecision in the underlying CE model parameter values.

PCV15

STUDY OF PROCEDURE COSTS AND OUTCOMES ASSOCIATED WITH THE PHARMACOLOGICAL TREATMENT OF ARTERIAL DISEASE AND INTERMITTANT CLAUDICATION IN THE DEPARTMENT OF DEFENSE

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OBJECTIVE: The purpose of this study was to determine if differences existed between pharmacological treatments of peripheral arterial disease (and intermittent claudication) (PAD/IC) with respect to PAD/IC-related costs and health care outcomes in the Department of Defense (DOD) health care system.
METHODS: A retrospective review of hospital and prescription data was performed to explore the effects of an exposure to at least 90 days of either aspirin, pentoxifylline, or dypiridamole on various PAD-related outcomes. The outcomes under study were the number of PAD-related invasive procedures performed (INV), number of PAD-related examination procedures performed (EXM), number of PAD-related hospitalization days incurred (HDAYS), and the cost of PAD-related procedures performed (COST). The study period encompassed five years. A covariate representing the pre-study period number of PAD-related hospitalizations was used to attempt to control for severity of disease state. General linear models (GLM) were used in the analyses.
RESULTS: A GLM showed a statistically significant difference among the treatment groups for a linear combination of INV, EXM, HDAYS, and COST when controlling for past PAD-related hospitalizations ($p < 0.02$). A statistically significant relationship was also found to exist between treatment groups and INV ($p < 0.04$). The pentoxifylline treatment group was shown to have a statistically significant higher covariate-adjusted mean INV when compared to the aspirin treatment group by a post-hoc T test adjusted for alpha inflation ($p = 0.04$). Also, PAD-related past hospitalizations showed a statistically significant relationship with a EXM ($p < 0.006$).
CONCLUSION: The results appear to support the use of aspirin in PAD as a preventative treatment.

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SMOKING RELATED COSTS IN THE UNITED STATES

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Smoking is a high-risk behavior that affects the health and economic welfare of society. Thus, it is important to quantify the economic burden smoking places on social institutions in the United States.
OBJECTIVE: The purpose of this review paper is to analyze smoking cost studies and to provide estimates that represent the economic costs of smoking from different perspectives of society, and as a whole.
METHODS: Current Contents (1996–), Health Star (1970–), and Medline (1966–) databases were searched through the use of pertinent subject headings and key words: tobacco use, smoking, cost, and economics. The internet was utilized to identify potential sources of epidemiological and cost information on smoking. Recent cost-of-illness studies using different methodologies: hu-